

**TECHNICAL REVIEW DOCUMENT
for
MODIFICATION TO OPERATING PERMIT 96OPAD130**

Public Service Company of Colorado – Cherokee Station
Adams County
Source ID 0010001

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September 2012
Revised October and November 2012

I. Purpose:

This document establishes the decisions made regarding the requested modification to the Operating Permit for Public Service Company of Colorado's Cherokee Station. This document provides information describing the type of modification and the changes made to the permit as requested by the source and the changes made due to the Division's analysis. This document is designed for reference during review of the proposed permit by EPA and for future reference by the Division to aid in any additional permit modifications at this facility. The conclusions made in this report are based on the information provided in the requests for modifications submitted to the Division on June 19, 2012 and November 7, 2012, additional information submitted on October 16, 2012, e-mail correspondence and telephone conversations with the source. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised construction permit.

II. Description of Permit Modification Request/Modification Type

The Operating Permit for Cherokee Station was issued on February 1, 2002 and was renewed on April 1, 2010. Public Service Company of Colorado (PSCo) submitted a request to modify the permit on June 19, 2012 to include the requirements in Colorado Regulation No. 6, Part B, Section VIII for low emitters (LE) in the Cherokee Station permit. As required by Colorado Regulation No. 6, Part B, Section VIII.D.2 applications to include the LE requirements must be submitted by July 1, 2012.

Colorado Regulation No. 3, Part C, Section X.A identifies those modifications that can

be processed under the minor permit modification procedures. Since the changes requested in this modification do not violate any applicable requirements, do not involve significant changes to existing monitoring, reporting or record keeping requirements, does not require or change a case-by-case emissions limitation, is based on underlying applicable requirements and is not otherwise required to be processed as a significant modification (e.g., does not increase emissions) this modification is being processed as a minor modification.

On November 7, 2012, PSCo submitted an application to remove Units 1 and 2 from the Title V permit since the units were retired. The retirement of Units 1 and 2 was a requirement in Colorado's Regional Haze State Implementation Plan (SIP). EPA approved Colorado's Regional Haze SIP on September 11, 2012, although the notice has not yet been published in the Federal Register. The specific Regional Haze requirements have been included in Colorado Regulation No. 3, Part F and those requirements are part of Colorado's Regional Haze SIP.

The Division typically considers that removal of equipment from a Title V permit can be considered an administrative amendment. However, in this case since there is a common emission limitation for Units 1 and 4 set by the underlying construction permits, the Division considers that this modification should be processed as a minor modification.

III. Modeling

No physical changes to any emissions units were made with this modification, nor does this modification result in an increase in emissions, therefore, modeling is not required for this modification.

IV. Discussion of Modifications Made

Source Requested Modifications

The Division addressed the source's requested as follows:

June 19, 2012 Modification Application

Section II.1

The LE requirements were included in Condition 1.16 of this permit. Note that although Section II.2 also addresses the units when burning natural gas only, the LE requirements were not included in the permit for the natural gas burning scenario since the Reg 6, Part B requirements only apply to coal-fired units.

All units at this facility qualify as LEs because actual emissions are below 29 lbs/yr of Hg. However, based on procedures in the Federal Clean Air Mercury Rule (CAMR), which was vacated in 2008 and are the basis for the Hg monitoring requirements in Reg

6, Part B, Unit 4 did not qualify as a LE, (this was based on the maximum potential emissions which were determined using maximum flow and the Hg concentration from the performance test), so PSCo installed a Hg CEMS on Unit 4. Based on Hg CEMS data actual emissions from Unit 4 have never exceeded the LE level of 29 lbs/yr of Hg. Reg 6, Part B did not stipulate that PSCo use the CAMR methods to determine if the unit was a LE but in anticipation of having to comply with the Federal CAMR requirements, PSCo installed a Hg CEMS and have used the CEMS to determine Hg emissions. Therefore, although Reg 6, Part B stipulates performance testing for verifying that a unit is a LE, the permit requires PSCo to use their Hg CEMS to verify LE status. The Division considers that this is a more conservative monitoring method. The intent of requiring performance tests in Reg 6, Part B to continually verify LE status was to provide less onerous monitoring for LEs (Reg 6, Part B requires non-LEs to install Hg CEMS). However, since PSCo has installed and continues to operate the Hg CEMS the Division considers that it is more appropriate to rely on the Hg CEMS to verify LE status for Unit 4. For Unit 4, the permit will specify that the Hg CEMS meet the requirements in Reg 6, Part B and will require that monitor down time be included in the quarterly reports.

October 16, 2012 Additional Information Submittal

"New" Section II.18

In their October 16, 2012 additional information submittal PSCo indicated that there was a Safety Kleen parts washer (solvent vat). Although emissions from this parts washer are below the APEN de minimis level and exempt from APEN reporting and the minor source construction permit requirements, it is subject to specific requirements in Colorado Regulation No. 7, Section X. Therefore, under the "catch-all" provisions in Regulation No. 3, Part C, Section II.E (2nd paragraph) the solvent vat cannot be considered an insignificant activity because it is subject to specific requirements in Regulation No. 7. Since the solvent vat cannot be considered an insignificant activity, PSCo requested that the parts washer be included in the permit and it has been included in Section II.18 of the permit. The appropriate applicable requirements for this unit are as follows:

- Transfer and storage of waste solvent and used solvent (Reg 7, Sections X.A.3 and 4)
- Solvent Cold Cleaner Requirements (Reg 7, Section X.B)
 - o Control Equipment - covers, drainage, labeling and spray apparatus requirements (Reg 7, Section X.B.1)
 - o Operating Requirements (Reg 7, Section X.B.2)

Appendices

- A fluorescent lamp crusher was added to the insignificant activity list in Appendix

A.

- Added the Safety Kleen cold cleaner solvent vat to the tables in Appendices B and C.

November 7, 2012 Modification Application

In their November 7, 2012 modification application, the source indicated that Units 1 and 2 had been retired and requested that the APENs and construction permit (for Unit 1) be cancelled. According to the application, the last day of operation for Unit 1 was April 30, 2012 and the last day of operation for Unit 2 was October 15, 2011. The following changes were made to the permit to address this application:

Section I – General Activities and Summary

- The description in Condition 1.1 was revised to reflect that Units 1 and 2 were no longer in operation.
- Removed construction permit number 86AD352-1 from the list in Condition 1.3. Construction permit number 86AD352-1 was issued for Unit 1.
- Removed Units 1 and 2 from Conditions 2.1.1 (AOS) and 5.1 (CAM) and from the table in Condition 6.1.

Section II.1 – Boilers Burning Coal

- Specific references to Units 1 and 2 and limitations and/or emission factors for Units 1 and 2 were removed from the various permit conditions.
- Citations that included construction permit 86AD352-1 were removed since that permit applied to Unit 1.
- Condition 1.5 addresses a construction permit requirement that requires a 20% reduction in annual (calendar year) SO₂ emissions from units 1 and 4 together. As requested in the November 7, 2012 application, this requirement was revised to require a 20% reduction from Unit 4 alone.

Section II.2 – Boilers Burning Natural Gas

- Specific references to Units 1 and 2 and limitations and/or emission factors for Units 1 and 2 were removed from the various permit conditions.
- Citations that included construction permit 86AD352-1 were removed since that permit applied to Unit 1.

Section II.3 – Boilers Burning Combination

- Removed references to Units 1 and 2 from the section title.

Section II.10 – Continuous Emission Monitoring and Continuous Opacity Monitoring System Requirements

- Citations that included construction permit 86AD352-1 were removed since that permit applied to Unit 1.
- Specific references to Units 1 and 2 were removed from the various permit conditions.

Section II.15 – Voluntary Emissions Reduction Agreement

- Removed the references from Units 1 and 2 from Condition 15.1.1.1.

Section III – Acid Rain Requirements

- Removed Units 1 and 2 from the table in Section III.2 and removed the NO_x averaging plan provisions since the NO_x averaging plan was submitted for Units 1 and 2.
- The reference to Units 1 and 2 in Section III.3 was removed.

Section IV – Permit Shield

- Removed references to B001 and B002, Units 1 and 2 and Construction Permit 86AD352-1 in various locations in this section

Appendices

- Removed Units 1 and 2 from the tables in Appendices B and C.
- Removed the references to Units 1 and 2 from Appendix H (CAM Plan).
- Included the retired unit exemption forms in a new Appendix I.

Other Modifications

In addition to the requested modifications made by the source, the Division used this opportunity to include changes to make the permit more consistent with recently issued permits, include comments made by EPA on other Operating Permits, as well as correct errors or omissions identified during inspections and/or discrepancies identified during review of this modification.

The Division has made the following revisions, based on recent internal permit processing decisions and EPA comments on other permits, to the Cherokee Station Operating Permit with the source's requested modifications. These changes are as follows:

Regional Haze Requirements

The Regional Haze Requirements are included in Colorado Regulation No. 3, Part F and are part of Colorado's Regional Haze State Implementation Plan (SIP). EPA approved Colorado's Regional Haze SIP on September 11, 2012, although the notice has not yet been published in the Federal Register. The Regional Haze requirements that apply to Cherokee Station include lower SO₂ emission limitations from the Metro Units and shutdowns and/or switching to natural gas of the Cherokee units by various dates. When Unit 4 switches to natural gas, specific NO_x, SO₂ and PM emission limitations apply to that unit.

The incorporation of the Regional Haze Requirements do not violate any applicable requirements, do not involve significant changes to existing monitoring, reporting or record keeping requirements, does not require or change a case-by-case emissions limitation, is based on underlying applicable requirements and is not otherwise required to be processed as a significant modification (e.g., does not increase emissions), which are all requirements for processing a modification as a minor modification (per Regulation No. 3, Part C, Section X.A). In addition, the Regional Haze Requirements underwent a public comment period prior to adoption of the requirements in Colorado Regulation No. 3, Part F and the Division is including those requirements in Colorado Regulation No. 3, Part F. Therefore, the Division considers that the Regional Haze Requirements can be incorporated into the permit with PSCo's June 19, 2012 minor modification request.

The Regional Haze requirements were included in Section II, Condition 1.17 and Section II, Condition 2.12.

Since PSCo submitted an application on November 7, 2012 to cancel the APEN and underlying construction permit (for Unit 1) and to remove Units 1 and 2 from the Title V permit, the Regional Haze requirements to shut down Units 1 and 2 were not included in the permit, since these actions have been completed.

Under the Regional Haze requirements when Unit 4 switches to burning solely natural gas, Unit 4 is subject to PM, SO₂ and NO_x emission limitations. The Regional Haze Monitoring requirements set forth in Colorado Regulation No. 3, Part F, Section VII for PM require performance tests at least every five years (more frequent testing is required for sources that test closer to the emission limitation) and rely on the compliance assurance monitoring (CAM) plan. In general, the Regional Haze requirements presumed that the emissions units would be subject to CAM for PM and did not contemplate PM emission limitations for units that burn natural gas only.

Currently Unit 4 operates primarily on coal, is equipped with a baghouse and relies on the baghouse to meet the current PM limits that apply to this unit when burning coal. It is not clear whether or not PSCo will remove the baghouse when the unit switches to natural gas. It is likely that soot and other particulate matter have built up to an extent in the boiler furnace and flue gas system and so it's possible that higher than expected levels of opacity and/or particulate matter may be seen when Unit 4 switches to natural

gas. For those reasons, PSCo may elect to retain the baghouse. Even if PSCo elects to retain the baghouse it is not anticipated that the baghouse will be required to meet the PM emissions limitation, therefore, CAM will not apply to Unit 4 when it switches to natural gas. As a result, the language in Colorado Regulation No. 3, Part F, Section VII.C.1 related to CAM has not been included in the permit.

The Regional Haze monitoring requirements for SO₂ and NO_x emissions for utility boilers (included in Reg 3, Part F, Section VII) address emission limitations in lb/MMBtu but not in tons/yr. The Regional Haze NO_x limit is in lb/MMBtu but the SO₂ limit is in tons/yr, so it is not addressed by the Regional Haze monitoring requirements. Since Unit 4 will still be subject to Acid Rain after the switch to natural gas, the Division included monitoring requirements for the Regional Haze requirements that are similar to the Acid Rain requirements (use of SO₂ CEMS or the alternative to an SO₂ CEMS provided for in 40 CFR Part 75 Appendix D).

Currently Unit 4 is only subject to CAM for PM emission limitations. As indicated previously, when Unit 4 switches to natural gas, the Division considers that the unit will no longer be subject to CAM (the baghouse will not be necessary to meet the PM emission limitations). Therefore, the requirement for reporting excursions from CAM indicators in Reg 3, Part F, Section VII.E was not included in the permit.

Section I - General Activities and Summary

- Condition 1.4 was revised to remove Section IV, Condition 3.d as a state-only requirement, since EPA approved these provisions into Colorado's SIP effective October 6, 2008.
- Updated the startup date for the emergency fire pump engine in the table in Condition 6.1. The startup notice submitted for this unit indicates that startup was in September 2012.

Section II.15 – Voluntary Emissions Reduction Agreement

- Removed the note in this condition indicating that the provisions in the Agreement are state-only enforceable until EPA approves the BART portion of Colorado's Regional Haze SIP. The Voluntary Emissions Reduction Agreement was not part of the Regional Haze SIP approved by EPA on September 11, 2012.

Section II.17 – Emergency Fire Pump Engine

- Added notes to Condition 17.1 indicating that the source is subject to the most recent version of these requirements (40 CFR Part 60 Subpart IIII) and that proposed revisions were made to the requirements.
- Added a statement under the header for the requirements in 40 CFR Part 60 Subpart IIII § 60.4209 in Condition 17.1.

- Added the requirements in .40 CFR Part 60 Subpart IIII § 60.4211(g) to Condition 17.1.
- Corrected the citations in Conditions 17.1.9 and 17.1.10.
- Removed Conditions 17.7 (commence construction) and 17.8 (startup notice), since these requirements have been completed. The startup notice submitted on October 1, 2012 indicated that the engine started up on September 28, 2012

Section V – General Conditions

- Revised the version date.
- The paragraph in Condition 3.d indicating that the requirements are state-only has been removed, since EPA approved these provisions into Colorado's SIP effective October 6, 2008.